

Appl. No. : 10/044,460  
Filed : January 14, 2002

#### REMARKS

Applicants have cancelled Claims 19, 20, and 29-31, without prejudice to, or disclaimer of, the subject matter contained therein. Applicants have amended Claims 22, 25, 27, and 33-35. Accordingly, Claims 1-3, 21-28, and 32-36 are currently pending.

Applicants respond below to the specific rejections and objections raised by the Examiner in the Office Action of May 1, 2003.

#### I. Restriction Requirement

Applicants hereby affirm their oral election, without traverse, of the claims of Group I, i.e., Claims 1-3, 21-28, and 32-36, drawn to a method of making ferrate. Applicants have cancelled the non-elected claims, i.e., Claims 19, 20, and 29-31, without prejudice to, or disclaimer of, the subject matter contained therein. The cancellation of these claims was solely in response to the Restriction Requirement, and by such cancellation, Applicants make no admissions as to the patentability of said claims. Applicants reserve the right to pursue the subject matter of the cancelled claims in a divisional, continuation, or continuation-in-part application claiming priority to the present application.

#### II. The Use of the Trademark OXONE

The Examiner has objected to the use of the word “oxone” in the specification, when such use is not capitalized on the grounds that OXONE is a registered trademark. Applicants have amended the specification to capitalize every occurrence of this trademark and have noted the registered trademark with the ® symbol. In view of the amendments, Applicants respectfully request that the Examiner reconsider and withdraw this objection.

#### III. Rejections Under 35 U.S.C. § 112

The Examiner has rejected Claims 27 and 35 under 35 U.S.C. § 112, second paragraph, on the ground that these claims recite the registered trademark “oxone.” The Examiner alleges that the use of a trademark in a claim renders the claim indefinite. Applicants respectfully disagree; the term “OXONE” is clearly defined in Paragraph [0093] of the specification. Nevertheless, in order to expedite prosecution, Applicants have amended Claims 27 and 35 and have replaced the term “oxone” with the definition found in Paragraph [0093]. Accordingly, the

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scope of Claims 27 and 35 have not been narrowed by these amendments. In view of these amendments, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

Claim 22 stands rejected under 35 U.S.C. § 112, second paragraph, for allegedly containing a phrase which lacks proper antecedent basis. Applicants have amended Claim 22 and have incorporated identical phrases found in the independent Claim 1, from which Claim 22 depends. Accordingly, the scope of Claim 22 has not been affected by this amendment. In view of this amendments, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

Claims 23, 25, 27, 33-35 stand rejected under 35 U.S.C. § 112, second paragraph, for allegedly using improper Markush language. The precise basis of the Examiner's rejection is unclear, and Applicants believe that the claim language is proper as written. Applicants have assumed that the Examiner's objection is based upon the presence of the phrase "or combinations thereof." Accordingly, Applicants have amended the above-mentioned claims to recite the conjugate "and" before the phrase "combinations thereof." Accordingly, the scope of Claims 23, 25, 27, 33-35 has not been affected by this amendment. Applicants respectfully request that the Examiner clarify his position with respect to this particular rejection if Applicants' understanding thereof is incorrect.

#### IV. Rejections Under 35 U.S.C. § 102(b)

All of the pending claims stand rejected under 35 U.S.C. § 102(b) for allegedly being anticipated by Deininger '573 (USP 4,405,573), Johnson '994 (USP 5,746,994) or Mills '090 (USP 2,758,090).

Applicants respectfully traverse these prior art-based rejections. It has been known in the art that ferrate in solution spontaneously decomposes. In fact, each of the references cited by the Examiner point to this problem of decomposition; each suggests one or more methods of crystallizing ferrate in order to slow down the decomposition rate and lengthen the product's shelf-life.

In contrast, the present inventors have discovered that the problems associated with the decomposition of ferrate may be circumvented where ferrate is used at a site proximal to the generation site. See, for example, Specification, Paragraph [0046]. Thus, Claims 1 and 21, the

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two pending independent claims, require that the site of use for the ferrate be proximal to the reaction chamber.

Applicants respectfully maintain that none of the cited references teach or suggest this element. In setting forth the rejections under 35 U.S.C. § 103(a), the Examiner himself acknowledges that Johnson '994 and Mills '090 do not teach or suggest this element. The Examiner states "Johnson . . . does not specifically teach delivering at least a portion of the ferrate to a site of use that is proximal to the mixing or reaction chamber. \* \* \* Mills . . . does not specifically teach delivering at least a portion of the ferrate to a site of use that is proximal to the mixing or reaction chamber." The Office Action, pp. 5-6.

Deininger '573 teaches a method of precipitating and crystallizing the synthesized ferrate prior to use. See, for example, Column 12, line 1, to Column 13, line 42. The reference is concerned with, inter alia, increasing the stability of the recrystallized product. For example, it teaches

any suitable purification procedure, or combinations thereof, may be utilized to remove impurities, and thereby prevent decomposition reactions from occurring and increase the stability of the K<sub>2</sub>FeO<sub>4</sub> product.

Deininger '573, Column 12, lines 45-49. In addition, the Examples of Deininger '573 are all directed to a synthetic process which culminates in making crystals suitable for long-term storage. For example, in Example 1 it is stated "This example resulted in making a dry, black crystalline poser with excellent long-term stability in air and good dry flow properties". Deininger '573, Column 20, lines 26-28. Example 2 uses "a method similar to that described in Example 1." *Id.* at line 62. Examples 4-7 are directed at stability studies over a course of 6 weeks, 8 weeks, 5 weeks, and 4 days, respectively. See, Table 2. Thus, Deininger '573 does not teach (or even suggest) using the ferrate at a site proximal to the generation site. Rather, Deininger '573 provides a detailed disclosure, as highlighted in each of its examples, of methods for preparing a dried, crystalline product. Such a dried, crystalline product is suitable (and indeed, is specifically designed) for long-term storage rather than for use at a site proximal to the generation site. Thus, Deininger '573 does not anticipate the pending claims.

Applicants respectfully maintain that because at least one of the elements in the pending claims is not taught or disclosed in the cited references, none of the cited references anticipate the

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claims of the present invention. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

V. Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected all of the pending claims as being unpatentable under 35 U.S.C. § 103(a) for allegedly being obvious over Johnson '994 in view of Deininger '573, Mills '090 in view of Deininger '573, or Harrison '553 (USP 2,835,553) in view of Deininger '573.

Applicants respectfully traverse. As the Examiner himself acknowledges, none of the relied-upon primary references specifically teaches or suggests a site of use for the ferrate that is proximal to the generation site. The Examiner implies that Deininger '573 supplies this missing element, apparently through a suggestion to use on-site generation. However, the Examiner does not cite to a specific recitation in Deininger '573 where this element is allegedly disclosed. As noted above, Deininger '573 suggests the opposite and in fact teaches away from the present invention. Deininger '573 teaches methods of stabilizing crystals of ferrate for long-term storage. One of ordinary skill in the art armed with the disclosure of Deininger '573 would not be motivated to use an unpurified solution of ferrate at a site proximal to the generation site to avoid problems associated with decomposition.

Therefore, Applicants respectfully maintain that since the cited references, either individually or in combination, do not teach or suggest at least one of the elements of the claimed invention, a *prima facie* case of obviousness has not been established. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

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### CONCLUSION

Applicants have endeavored to respond to all of the Examiners comments and rejections. Applicants respectfully submit that the claims, as amended herewith, are patentable and should be passed to issue. A notice to that effect is respectfully requested.

No fee is believed due in connection with this response. If this is not correct, please charge any required fees, including any fees for extension of time, to Deposit Account No. 11-1410. The Examiner is invited to call Applicant's representative at the number listed below if any issues can be resolved telephonically.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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